

ABSTRACT OF THE DISCLOSURE

The present invention relates to methods for the identification or cloning of polynucleotides encoding a selected phenotype, particularly from environmental DNA. In a specific embodiment, the method comprises (i) cloning environmental DNA fragments into E. coli cloning vectors to produce a metagenomic library, (ii) identifying or selecting cloning vectors in said library which contain DNA fragments having a particular characteristic of interest, (iii) modifying the identified or selected cloning vectors into shuttle or expression vectors for transfer and integration in a selected host cell, (iv) transferring the modified cloning vectors into said selected host cell and (v) identifying or cloning the DNA fragments contained in said modified cloning vectors which encode said selected phenotype in said selected host cell.